Claims

What is claimed is:

1. An apparatus, comprising:

a unitary, substantially uniformly distributed transfer material forming a mesh; and

a carrier material coupled to the unitary, substantially uniformly distributed transfer material.

2. The apparatus of claim 1, wherein the unitary, substantially uniformly distributed transfer material further comprises at least one of a component transfer material including bismuth, copper, gold, indium, zinc, antimony, magnesium, lead, silver, tin, and alloys thereof.

3. The apparatus of claim 1, wherein the carrier material further comprises at least one of a component carrier material including a polymer, an elastomer, a hardener, a catalyst, a reactive diluent, an adhesion promoter, a surfactant, a deforming agent, a fluxing agent, a toughening agent, a coupling agent, an epoxy, an ester, a siloxane, a polyamide, a silicone, a rubber, and a wetting agent.

4. The apparatus of claim 1, wherein a plurality of elements included in the unitary, substantially uniformly distributed transfer material are distributed on a grid pattern.

5. The apparatus of claim 1, wherein the unitary, substantially uniformly distributed transfer material further comprises:

a plurality of substantially similar geometric objects.

6. The apparatus of claim 5, wherein the plurality of substantially similar geometric objects are arranged in a substantially repeating pattern.

7. The apparatus of claim 5, wherein the plurality of substantially similar geometric objects includes a plurality of regular geometric objects.

8. The apparatus of claim 5, wherein the plurality of substantially similar geometric objects includes a plurality of irregular geometric objects.

9. The apparatus of claim 5, wherein at least one of a height, a shape, and a spacing of the plurality of substantially similar geometric objects is selected based on a desired volume of the unitary, substantially uniformly distributed transfer material.

10. The apparatus of claim 5, wherein the unitary, substantially uniformly distributed transfer material comprises a plurality of connecting elements to couple the plurality of substantially similar geometric objects to each other.

11. The apparatus of claim 10, wherein the plurality of connecting elements are arranged in a substantially repeating pattern.

12. An apparatus, comprising:
a carrier material; and
a solderable transfer material at least partially embedded within the carrier material and arranged in a substantially uniform fashion.

13. The apparatus of claim 12, wherein the solderable transfer material further comprises at least one of a component transfer material including bismuth, copper, gold, indium, zinc, antimony, magnesium, lead, silver, tin, and alloys thereof.

14. The apparatus of claim 12, wherein the solderable transfer material further comprises:

a plurality of substantially similar geometric objects distributed on a grid pattern.

15. The apparatus of claim 14, wherein the plurality of substantially similar geometric objects includes a plurality of regular geometric objects.

16. The apparatus of claim 14, further comprising:

a plurality of connecting elements to couple the plurality of substantially similar geometric objects to each other.

17. A system, comprising:

a wireless transceiver;

a die including a circuit coupled to the wireless transceiver; and

a unitary, substantially uniformly distributed transfer material forming a mesh and adjacent the die and coupled to a carrier material.

18. The system of claim 17, wherein a plurality of elements included in the unitary, substantially uniformly distributed transfer material are distributed in a substantially repeating pattern.

19. The system of claim 18, further comprising:

a plurality of connecting elements to couple the plurality of elements included in the unitary, substantially uniformly distributed transfer material to each other.

20. The system of claim 18, wherein the substantially repeating pattern comprises a parallel pattern.

21. The system of claim 18, wherein the substantially repeating pattern comprises a grid pattern.

22. The system of claim 17, wherein the unitary, substantially uniformly distributed transfer material further comprises:

a plurality of substantially similar geometric objects distributed in a grid pattern.

23. The system of claim 22, wherein at least one of a height, a shape, and a spacing of a plurality of substantially similar geometric objects is selected based on a package stress associated with the die.

24. The system of claim 17, further comprising:

a heat dissipating element coupled to the unitary, substantially uniformly distributed transfer material.

25. A method, comprising:

forming a unitary, substantially uniformly distributed transfer material as a mesh; and

coupling a carrier material to the unitary, substantially uniformly distributed transfer material.

26. The method of claim 25, wherein forming the unitary, substantially uniformly distributed transfer material further comprises:

impressing at least one patterned roller against a sheet of solderable material.

27. The method of claim 25, wherein coupling the carrier material to the unitary, substantially uniformly distributed transfer material further comprises:

curing the carrier material.

28. The method of claim 25, further comprising:

placing the unitary, substantially uniformly distributed transfer material and the carrier material between a die and a heat dissipating element.

29. The method of claim 25, further comprising:

heating the unitary, substantially uniformly distributed transfer material so as to break a selected number of connecting elements coupling a plurality of geometric objects included in the unitary, substantially uniformly distributed transfer material.

30. An apparatus, comprising:

an array of solderable elements coupled to each other by a plurality of solderable connecting elements; and

a carrier material coupled to the array of solderable elements.

31. The apparatus of claim 30, wherein the array of solderable elements is at least partially embedded in the carrier material.

32. The apparatus of claim 30, wherein an average volume of each one of the plurality of solderable connecting elements is less than about one-half of a volume of an average size of each one of the array of solderable elements.

33. A machine, comprising:

a transport element; and

a pair of rollers, at least one of which is capable of being coupled to the transport element, and at least one of which comprises a pattern to form a corresponding pattern in a solderable material, the pattern comprising an array of elements arranged in a substantially repetitive manner.

34. The machine of claim 33, wherein selected elements included in the array of elements are interconnected by a plurality of connecting elements.

35. The machine of claim 33, wherein the array of elements arranged in a substantially repetitive manner includes a plurality of substantially similar geometric objects distributed on a grid pattern .